Amendments to the Specification

Please replace the paragraph beginning at page 1, line 12, with the following amended paragraph:

Conventionally, as a method of preparing a rigid polyurethane foam, a method in which a chlorine-containing flon, for example, ~~a CFC~~ CFC's or ~~an HCFC~~HCFC's, such as CFC-11, HCFC-141b, HCFC-123, HCFC-22 or CFC-12, is used as a foaming agent, is publicly known. However, ~~a CFC~~ CFC's and ~~an HCFC~~HCFC's are said to be one of the causes of the environmental problem of the depletion of the ozone layer, and therefore a reduction and abolition of ~~a CFC~~CFC's and ~~an HCFC~~HCFC's are to be put into force. Thus foaming with water has ~~got~~ received attention, wherein carbon dioxide generated by the reaction between water and isocyanate group is utilized. Furthermore, foaming with a hydrofluorocarbon (which is hereinafter referred to as HFC), which is one of flons ~~and~~ that will not deplete the ozone layer ~~due to containing~~because it contains no chlorine, has ~~got~~ received attention.

Please replace the paragraph beginning at page 1, line 25, with the following amended paragraph:

With respect to a method of preparing a rigid polyurethane foam wherein merely water is used as a foaming agent, various suggestions have been offered heretofore. For example, a method which comprises using a polyol having a hydroxyl value of 300 to 450 (mg KOH/g), which is prepared by adding an alkylene oxide to a mixture of 40 to 70 parts by weight of pentaerythritol, 10 to 50 parts by weight of triethanolamine, and 40 parts by weight or less of glycerin (for example, refer to JP-A-5-186559); a method which comprises using a compound having an aromatic amino group and/or imino group, wherein said mixture is used as an

initiator for said polyol (for example, refer to JP-A-9-87352); a method which comprises using a polyol mixture of 65 to 85% by weight of a polyol having a hydroxyl value of 270 to 330, and 15 to 35% by weight of a polyol having a hydroxyl value of 400 to 460, in combination with a poly(alkylene glycol)-silicone block-copolymer having a particular molecular structure of molecule as a foam stabilizer, wherein the former polyol is derived by adding ethylene oxide (EO) and propylene oxide (PO) to tolylenediamine, while the latter polyol is derived by adding PO to methyl glucoside (for example, refer to JP-A-5-97961); a method which comprises using a large amount of a high boiling compound such as phthalate, dibasic fatty ester, or orthophosphoric ester, as a viscosity reducing agent (for example, refer to JP-A-6-184340); a method which comprises using a polyol mixture as a polyol component, and a particular silicone foam-stabilizer as a foam stabilizer, wherein said compound comprises a tolylenediamine short-chain polyether polyol, an ethylenediamine short-chain polyether polyol, a glycerin long-chain polyether polyol, and dipropylene glycol in a particular ratio, while said foam-stabilizer is specified by the average molecular weight, the concentration of silicone in the molecule, and the ratio of EO/PO (for example, refer to JP-A-10-45862); a method which comprises using a polyol which is derived by adding an alkylene oxide to a saccharide in the presence of a catalyst and a solvent (for example, refer to JP-A-10-101762); and a method which comprises using an aromatic polyester-polyol which is derived from a terephthalic-acid component and a high-molecular-weight polyol, in an amount of 5% by weight of a polyol as a polyol component (for example, refer to JP-A-10-231345); are proposed.

Please replace the paragraph beginning at page 3, line 22, with the following amended paragraph:

Generally, when a rigid polyurethane foam is prepared by using water as a foaming agent, a foam will be formed from a carbon-dioxide gas as generated through a reaction between water and isocyanate group. This reaction will simultaneously produce urea group. Urea group is high in cohesive force, and thus it has the advantage of consolidating the resultant polyurethane foam, while it has the disadvantage of making the polyurethane foam embrittled, in particular the surface layer of the polyurethane foam. When the surface layer is embrittled, the adhesive properties between a structural material (for example, a face material), such as a steel plate, lumber or paper, and the surface layer is remarkably impaired. The more highly the loads of water are increased, the larger this tendency becomes. Therefore, a rigid polyurethane foam ~~as~~ foamed with water has ~~been~~ the problem that it would be difficult to lower the density of the polyurethane foam by increasing the amount of added water. Furthermore, even when an HFC is used as a foaming agent, there is a similar problem to when water is used by itself as a foaming agent, since water as a foaming agent is commonly used together therewith.

Please replace the paragraph beginning at page 4, line 11, with the following amended paragraph:

As a method for improving the brittleness and the adhesive properties of the surface of a rigid polyurethane foam, for example, a method wherein an imidazole catalyst is used is proposed (for example, refer to JP-A-9-87351). However, the proposal has the disadvantage in that the addition of the imidazole catalyst leads to the acceleration of the whole ~~reactions~~ reaction for the polyurethane foam, and

thus it is difficult to control the properties of the derived polyurethane foam by adjusting the composition of the catalyst. Furthermore, a method wherein a solvent showing no reaction to an organic polyisocyanate and a polyol is used is also known. However, the use of a solvent has the disadvantage that it softens the whole polyurethane foam, which leads to the decrease of the strength of the polyurethane foam, or leads to the volatilization or elution of the solvent from the polyurethane foam.

Please replace the paragraph beginning at page 5, line 1, with the following amended paragraph:

In order to solve the above-mentioned problems, the present inventors have been devoted to studying. As a result, it has been found that the use of basic ingredients comprising an organic polyisocyanate and/or a polyol as raw materials for producing a rigid polyurethane foam, water or a mixture of water and an HFC as a foaming agent, a catalyst, and a foam stabilizer, as well as a compound as a modifying agent, having a saturated bond and carbonyl group which are adjacent to each other, in an amount of 0.01 to 20 parts by weight per 100 parts by weight of said polyol, is effective to lower the brittleness of the rigid polyurethane foam and to improve the adhesive properties, whereby the present invention has been achieved. The mechanism of the decrease in brittleness will be that a low molecular weight compound (a) having a saturated bond and carbonyl group which are adjacent to each other is reacted with a primary amine as produced by a reaction between water and an isocyanate group so as to produce a secondary amino group, followed by the reaction of the secondary amino group with another isocyanate group. In case of common foaming with water, a urea group is produced, while in case of using said low molecular weight compound (a) as a modifying

agent, a bonding wherein one of hydrogen atoms of the urea group is substituted with a molecule of the modifying agent is formed. This substituted urea-bond prevents the excessive agglomeration of urea bond. According to this effect, the brittleness of the urethane foam is decreased, whereby the adhesive properties to a face material can be improved.

Please replace the paragraph beginning at page 5, line 1, with the following amended paragraph:

(2) A composition for forming a rigid polyurethane foam, characterized in that a composition comprising an organic polyisocyanate, a polyol, a catalyst, a foam stabilizer, water and a hydrochlorofluorocarbon as a foaming agent, a low molecular weight compound (a) having an unsaturated bond and carbonyl group which are adjacent to each other in an amount of 0.01 to 20 parts by weight per 100 parts by weight of said polyol, as a modifying agent, and if necessary, other auxiliary agent(s);

(3) A composition for forming a rigid polyurethane foam according to ~~the~~ item (1) or (2), wherein the number average molecular weight of said low molecular weight compound (a) is less than 500;

(4) A composition for forming a rigid polyurethane foam according to any one of ~~the~~ items (1) to (3), wherein said low molecular weight compound (a) is a maleic acid ester; and

(5) A method of preparing a rigid polyurethane foam, characterized by using a composition for forming a rigid polyurethane foam according to any one of ~~the~~ items (1) to (4).

Please replace the paragraph beginning at page 14, line 30, with the following amended paragraph:

When a panel-foamed foam was molded, a previously degreased steel-plate (100 X 100 mm) had been fixed to the

side surface, and the panel-foamed foam was formed in a similar manner to the one aforementioned. After being removed from the mold, the panel-foamed foam was ~~still stood~~maintained at room temperature for a period of 24 hours, followed by the determination of ~~an~~ the adhesive strength between the foam and the steel plate with a tensile tester (Tensilon).

Please replace the paragraph beginning at page 15, line 8, with the following amended paragraph:

According to a compounding ratio as shown in Table 1, Polyether polyol A, water, a catalyst, a foam stabilizer, a flame retardant, and dibutyl maleate as a modifying additive agent were mixed so as to prepare a polyol premix. Subsequently, the premix and an organic polyisocyanate ~~was~~ were mixed so as to provide a compounding ratio as shown in Table 1, followed by the determination of the expansion rate, the preparation of a panel-foamed foam, and the determination of the density of the panel-foam, the rate of the dimensional change at an elevated temperature, and the adhesive strength. The results are shown in Table 1.